

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)


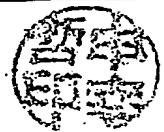
(PCT Article 36 and Rule 70)

REC'D 23 MAY 2006

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| Applicant's or agent's file reference P04EB020PCT | FOR FURTHER ACTION | See Form PCT/IPEA/416 |
| International application No. PCT/KR2004/003559 | International filing date(day/month/year) 31 DECEMBER 2004 (31.12.2004) | Priority date (day/month/year) 19 JANUARY 2004 (19.01.2004) |
| International Patent Classification (IPC) or national classification and IPC H04N 7/015(2006.01)i | | |
| Applicant Electronics and Telecommunications Research Institute et al | | |

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
- a. ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
- ☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
- ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
- b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____ containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:
- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

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| Date of submission of the demand 19 AUGUST 2005 (19.08.2005) | Date of completion of this report 04 MAY 2006 (04.05.2006) |
| Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140 | Authorized officer SHIN, Jae Chul Telephone No. 82-42-481-8215  |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/KR2004/003559

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☒ This report is based on translations from the original language into the following language English which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3 and 23.1(b))
 - ☒ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
 - ☒ the international application as originally filed/furnished
 - ☐ the description:
 - pages _____ as originally filed/furnished
 - pages* _____ received by this Authority on _____
 - pages* _____ received by this Authority on _____
 - ☐ the claims:
 - pages _____ as originally filed/furnished
 - pages* _____ as amended (together with any statement) under Article 19
 - pages* _____ received by this Authority on _____
 - pages* _____ received by this Authority on _____
 - ☐ the drawings:
 - pages _____ as originally filed/furnished
 - pages* _____ received by this Authority on _____
 - pages* _____ received by this Authority on _____
 - ☐ the sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages _____
 - ☐ the claims, Nos. _____
 - ☐ the drawings, sheets _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages _____
 - ☐ the claims, Nos. _____
 - ☐ the drawings, sheets _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/KR2004/003559

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

| | | | |
|-------------------------------|--------|------------|-----|
| Novelty (N) | Claims | 6-8, 14-16 | YES |
| | Claims | 1-5, 9-13 | NO |
| Inventive step (IS) | Claims | None | YES |
| | Claims | 6-8, 14-16 | NO |
| Industrial applicability (IA) | Claims | 1-16 | YES |
| | Claims | None | NO |

2. Citations and explanations (Rule 70.7)

D1 : US 5828954 A

The present invention relates to apparatus and method for modulating of on-channel repeater.

The claims 1-5 and 9-13 are characteristic of the modulator to have MUX, up-sampling means, I/Q filter, DAC, RF converter and adder. The dependent claims 6-8 and 14-16 define the filter as ER (Equi-Ripple) or SRRC(Square Root Raised Cosine).

D1 shows, in Fig.2, a modulator to have MUX, sampling-rate expander, I/Q filter, DAC and RF converter. It is, in D1, described that the function of the above part corresponds to that of the above part in the claims. So, the claims 1-5 and 9-13 are not novel.

Considering the difference between the claims 6-8 and 14-16 and D1, the present invention uses the ER or SRRC filter. However, the filter is the prior art that a person skilled in the art could use. Therefore, the invention, as in claims 1-16, is not considered to involve an inventive step.